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Chapter 8 Review

Key Words
For #1, write the letter of the correct word in each blank.
Each word can be used more than once.

1. In the _____ $\frac{2}{3}k + \frac{1}{2} = -\frac{5}{6}$,

- k is a _____
- $\frac{2}{3}$ is a _____
- $\frac{1}{2}$ is a _____
- $-\frac{5}{6}$ is a _____

A numerical coefficient **B** variable

C constant **D** equation

For #2 and #3, unscramble the letters to complete the statements using key words.
Explain the meaning of the key words.

2. Subtraction is the _____ _____ to addition. (2 words)

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Meaning: _____

3. When solving equations, you can remove brackets using the _____

_____. (2 words)

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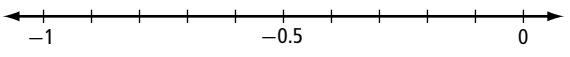
Meaning: _____

8.1 Solving Equations: $ax = b$, $\frac{x}{a} = b$, $\frac{a}{x} = b$, pages 425–439

4. Model the solution to the equation $\frac{x}{2} = -0.4$ on a number line.



$x =$ _____

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5. Solve and check.

a) $4d = -\frac{2}{5}$

$4d \div$ _____ $= -\frac{2}{5} \div$ _____

$d = -\frac{2}{5} \times \frac{\square}{\square}$

$d = \frac{\square}{\square}$

Check:

Left Side	Right Side
$4d$	$-\frac{2}{5}$
$= \frac{4}{1} \times \frac{\square}{\square}$	
$=$	

b) $2.68 = \frac{y}{3}$

$2.68 \times$ _____ $= \frac{y}{3} \times$ _____

_____ $= y$

Check:

Left Side	Right Side

c) $\frac{3.5}{h} = -0.2$

Check:

Left Side	Right Side

d) $-7.6u = -14.44$

Check:

Left Side	Right Side

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6. To find the density of an object, D, in grams per cubic centimetre, use the formula $D = \frac{m}{V}$.

m = mass in grams, V = volume in cubic centimetres

a) The density of pure iron is 7.87 g/cm^3.
A piece of pure iron has a volume of 5.5 cm^3. What is its mass?

$D = \frac{m}{V}$

Sentence: _____

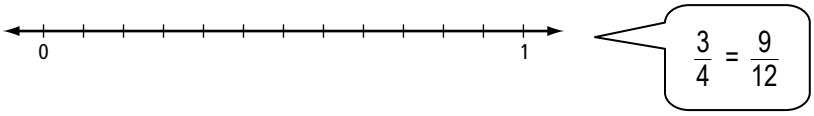
b) A piece of pure iron has a mass of 98.375 g. What is its volume?

$D = \frac{m}{V}$

Sentence: _____

8.2 Solving Equations: $ax + b = c$, $\frac{x}{a} + b = c$, pages 441–456

7. Model the solution to the equation $2x + \frac{1}{12} = \frac{3}{4}$ on a number line.



x = _____

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8. Solve and check.

a) $\frac{t}{1.6} + 5.9 = -3.2$

$\frac{t}{1.6} + 5.9 - \_\_\_\_\_ = -3.2 - \_\_\_\_\_$

$\frac{t}{1.6} = \_\_\_\_\_$

$\_\_\_\_\_ \times \frac{t}{1.6} = \_\_\_\_\_ \times \_\_\_\_\_$

$t = \_\_\_\_\_$

Check:

Left Side	Right Side

b) $2.05 = 0.9x - 6.5$

Check:

Left Side	Right Side

c) $\frac{2}{5} = \frac{2}{3} - \frac{r}{5}$

Multiples of 3: _____

Multiples of 5: _____

$\left(\_\_\_\_\_ \times \frac{2}{5}\right) = \left(\_\_\_\_\_ \times \frac{2}{3}\right) - \left(\_\_\_\_\_ \times \frac{r}{5}\right)$

$\frac{\square}{\square} = \frac{\square}{\square} - \frac{\square}{\square} r$

Check:

Left Side	Right Side

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9. Oksana paid a $14.00 service charge to buy 4 concert tickets on the Internet.
The total cost of her order, including the service charge, was $153.80.
What was the cost of each ticket?

Let t = the cost per ticket.
Total cost = cost for 4 tickets plus service charge

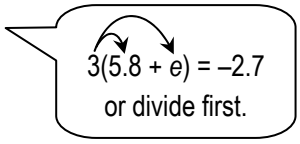
_____ = _____ + _____

Sentence: _____

8.3 Solving Equations: $a(x + b) = c$, pages 458–467

10. Solve.

a) $3(5.8 + e) = -2.7$



b) $-\frac{5}{6} = \frac{r - 4}{3}$

11. Lorna took 3 friends to the zoo. The bus fares cost $5.50 per person.
She paid the same cost of admission for each person.
Lorna spent $109 altogether on fares and admission.
What was the cost of each admission?

Let c = the cost of admission to the zoo.

Total cost = number of people × the sum of the cost of bus fare and cost of admission

_____ = _____(_____ + _____)

Sentence: _____

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8.4 Solving Equations: $ax = b + cx$, $ax + b = cx + d$, $a(bx + c) = d(ex + f)$, pages 469–481

12. Solve.

a) $-0.25f = 0.35 - 0.45f$

$-0.25f + \_\_\_\_\_ = 0.35 - 0.45f + \_\_\_\_\_$

$\_\_\_\_\_ = 0.35$

$\frac{\square}{\square} = \frac{\square}{\square}$

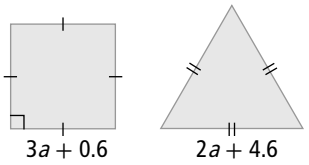
$f = \_\_\_\_\_$

b) $\frac{3v + 2}{3} = \frac{2v - 1}{4}$

Multiples of 2: _____

Multiples of 3: _____

13. The square and the equilateral triangle have equal perimeters.



a) What is the value of a?

Perimeter of the square = perimeter of the triangle

$4(\_\_\_\_\_ + \_\_\_\_\_) = 3(\_\_\_\_\_ + \_\_\_\_\_)$

The value of a is _____.

b) What is the perimeter of each shape?

Square: Triangle:

$P = 4(3 \times \_\_\_\_\_ + 0.6)$ ←Substitute→ $P = 3(2 \times \_\_\_\_\_ + 4.6)$

←Evaluate→